

STATE OF WASHINGTON  
DEPARTMENT OF ECOLOGY

file

REPORT OF EXAMINATION  
TO APPROPRIATE PUBLIC WATERS OF THE STATE OF WASHINGTON

- ☐ Surface Water (Issued in accordance with the provisions of Chapter 117, Laws of Washington for 1917, and amendments thereto, and the rules and regulations of the Department of Ecology.)
- ☒ Ground Water (Issued in accordance with the provisions of Chapter 263, Laws of Washington for 1945, and amendments thereto, and the rules and regulations of the Department of Ecology.)

PRIORITY DATE August 8, 1984	APPLICATION NUMBER C4-28516	PERMIT NUMBER	CERTIFICATE NUMBER
NAME CITY OF RICHLAND			
ADDRESS (STREET) P.O. Box 190	(CITY) Richland,	(STATE) Washington	(ZIP CODE) 99352

PUBLIC WATERS TO BE APPROPRIATED

SOURCE  
See below \*\*

TRIBUTARY OF (IF SURFACE WATERS)

MAXIMUM CUBIC FEET PER SECOND	MAXIMUM GALLONS PER MINUTE 2778	MAXIMUM ACRE-Feet PER YEAR 3791 *
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QUANTITY, TYPE OF USE, PERIOD OF USE  
To be used for continuous municipal supply.

\* The annual quantity authorized is not in addition to existing rights beyond the  
total of 33,128 acre-feet per year.

LOCATION OF DIVERSION/WITHDRAWAL

APPROXIMATE LOCATION OF DIVERSION-WITHDRAWAL  
See below \*\*\*

LOCATED WITHIN (SMALLEST LEGAL SUBDIVISION) See below ****	SECTION	TOWNSHIP N.	RANGE, (E. OR W.) W.M.	W.R.I.A.	COUNTY
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RECORDED PLATTED PROPERTY

LOT	BLOCK	OF (GIVE NAME C- PLAT OR ADDITION)
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LEGAL DESCRIPTION OF PROPERTY ON WHICH WATER IS TO BE USED

Richland Water Service Area.

\*\* Source: Four wells (Wellsian Way Well Fields)

\*\*\* Approximate location of diversion/withdrawal:

- #1 - 2600 feet north and 150 feet west of the southeast corner of Section 15;
- #2 - 1600 feet north and 150 feet west of the southeast corner of Section 15;
- #3 - 1900 feet north and 1100 feet east of the southwest corner of Section 14;
- #4 - 1550 feet south and 150 feet west of the northeast corner of Section 15.

\*\*\*\* Located within (smallest legal subdivision):

Wells #1, 2, and 4 within the E½E½ of Section 15, T. 9 N., R. 28 E.W.M., WRIA 40, in Benton County;

Well #3 within the NW¼SW¼ of Section 14, T. 9 N., R. 28 E.W.M., WRIA 40, in Benton County.



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DESCRIPTION OF PROPOSED WORKS

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Four wells 60 to 80 feet deep with 50, 60, and 75 horsepower pumps intertied to municipal system.

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DEVELOPMENT SCHEDULE

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BEGIN PROJECT BY THIS DATE:  
Begun

COMPLETE PROJECT BY THIS DATE:  
Complete

WATER PUT TO FULL USE BY THIS DATE:  
October 1, 1985

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REPORT

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See attached report.



64-28516

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DESCRIPTION OF PROPOSED WORKS

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Two wells 86 and 120 feet deep with 75 and 100 horsepower pumps intertied to the city's municipal system.

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DEVELOPMENT SCHEDULE

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BEGIN PROJECT BY THIS DATE: Begun	COMPLETE PROJECT BY THIS DATE: Complete	WATER PUT TO FULL USE BY THIS DATE: October 1, 1985
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REPORT

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Background

On August 8, 1984, the City of Richland filed three applications to appropriate public groundwaters. The applications were accepted, assigned numbers G4-28515, G4-28516, and G4-28517 and public notice was made. No protests were received during the 30-day protest period.

Investigation

The following information was obtained from review of office records and conversations and meetings with Stan Arlt, Deputy Director of the city's Public Works Department and Mike Gillum, the city's engineer.

The city's intent in filing these applications is to have the water right records accurately reflect the actual water use and need. Richland has estimated that their population within the next 20 years will rise to 65,000 people. The average water use is projected to be 455 gallons per day per person for an annual water use of 33,128 acre-feet per year. During the summer months their peak water demand is as high as 1,270 gallons per day per person, or 128 cubic feet per second (cfs).

Currently used sources of water for Richland's municipal supply consists of the Columbia River and several wells or well fields. During the summer months the Columbia River is the primary source of the city's water with the wells being used only for the peak demand periods and as a backup supply. During the winter months, the wells provide the primary source of municipal water as the water treatment plant (through which Columbia River water is treated prior to use) is shut down for maintenance and repairs. The attached Exhibit "A" is a table of the city's municipal water sources as intended to be used, their water right certificates, permits, and applications (as the applications have been recommended for permit issuance).

There are two certificates that issued to Richland for diverting water from the Columbia River for municipal supply. Surface Water Certificate (SWC) No. 9005 authorizes the diversion of 54.25 cfs, 32,430 acre-feet per year for municipal supply. SWC No. S4-26404C authorizes the diversion of 17 cfs, 12,257 acre-feet per year for municipal supply. The annual quantity authorized by SWC No. S4-26404C was supplemental to existing water rights held by the city, therefore the 12,257 acre-feet per year are not in addition to the 32,430 acre-feet per year. The city also has filed Surface Water Application (SWA) No. S4-27121, which has been amended to request a right for an additional 6 cfs from the Columbia River and has been recommended for permit. This application was filed in order to have the city's water rights match their actual peak instantaneous diversion from the Columbia River. The city's water treatment plant has a capacity of 46.25 cfs. Therefore, of the 77.25 cfs that would be authorized for diversion from the Columbia River if SWA No. S4-27121 is approved, up to 31 cfs could be spread in the North Richland Well Field. The city has six turbine pumps installed at their river intake structure, one 100 horsepower, two 200 horsepower, and three 300 horsepower pumps. Two of the 300 horsepower pumps are used to divert water from the Columbia River to recharge the North Richland Well Field and have a capacity for pumping up to 45 cfs, however, only 31 cfs is withdrawn. The other four pumps supply water to the city's water treatment plant, and are rated at a capacity of 95 cfs if they all were operated at the same time. Because the capacity of the plant is 46.25 cfs, as previously stated, the pumps are not all operated at the same time.



Groundwater Certificate (GWC) No. 3760-A issued to the City of Richland authorizing the withdrawal of 2,000 gallons per minute (gpm), 3,200 acre-feet per year for municipal supply and industrial use. The authorized well was located in Government Lot 3, Section 14, T. 10 N., R. 28 E.W.M. This well has been abandoned and the use discontinued. The city has indicated a willingness to relinquish GWC No. 3760-A.

GWC No. 4307-A issued to the City of Richland authorizing the withdrawal of 1,200 gpm, 1,920 acre-feet per year for municipal supply. The authorized well is located in the SE1/4 of Section 26, T. 10 N., R. 28 E.W.M. This use has also been discontinued and the well abandoned. The city has again indicated a willingness to relinquish GWC No. 4307-A.

Groundwater Permit (GWP) No. G4-25674P originally issued to Milo Bauder, but in 1981 it was assigned to the City of Richland. After approval of an application for change filed by the city, this permit authorizes the withdrawal of 1,400 gpm, 1,512 acre-feet per year for municipal supply. The annual quantity authorized is not in addition to that already authorized for the City of Richland by prior rights, however the instantaneous quantity of 1,400 gpm is. The authorized well is located in the SE1/4 of Section 34, T. 9 N., R. 28 E.W.M.

In March 1960 the Department of Conservation (a predecessor agency to the WDOE) received a petition to establish a groundwater sub-area as set forth under Revised Code of Washington (RCW) Chapter 90.44.130. A public hearing was held and the Department of Conservation approved the request and established the Richland Groundwater Sub-area. Subsequent to that the City of Richland filed four Declarations of Artificially Stored Groundwater and four Declarations of Withdrawal of Groundwater for four well fields within the groundwater sub-area.

GWC No. D-1, under Artificially Stored Groundwater Declaration of Claim No. D-1, was confirmed for the Wellsian Way Well Field. It authorized the withdrawal of 5,300 gpm, 3,791 acre-feet per year for municipal supply for the City of Richland. Originally six wells were authorized for use, with the wells being within Sections 10, 14, and 15, T. 9 N., R. 28 E.W.M. Two of the wells have been abandoned, so only four have continued to be used. The city ceased recharging the well field in the early 1970's, therefore, the city is now withdrawing public groundwater, rather than artificially stored groundwaters. GWA No. G4-28516 has been filed for appropriation of public groundwaters by the city for the Wellsian Way Well Field. It requests 2,778 gpm, 3,791 acre-feet per year from this well field for municipal supply. The four wells are 60 to 80 feet deep and penetrate sand and gravels. They are located approximately one mile west of the Columbia River. Three wells currently have pumps in them, a 75, a 60 and a 50 horsepower with combined capacity of 2,125 gpm. The city is considering putting a pump in the fourth well. *Wellsian Way*

GWC No. D-2, under Artificially Stored Groundwater Declaration of Claim No. D-2, was confirmed for the North Richland Well Field (also known as the 3,000 area recharge basin). It authorized the withdrawal of 12,800 gpm, 5,526 acre-feet per year for municipal supply. The water source for the artificial recharge was authorized as the Yakima River. It has been more than ten years since Yakima River water was used by the City of Richland to recharge the well field. Ten wells within Sections 23 and 26, T. 10 N., R. 28 E.W.M. were authorized for use. This well field has continued to be recharged, however, it has been with water from the Columbia River. The well field is located less than half a mile from the Columbia River and the wells penetrate river gravels. The wells are basically used as a filtering reservoir for the water withdrawn from the Columbia River. It has been determined that since the city's water rights for Columbia River water are sufficient to cover the water withdrawn from the wells in the North Richland Well Field, the groundwater declaration is not necessary nor does it reflect actual practice. The pumps that have been installed in the wells since between 1948 and 1961 are capable of withdrawing a maximum of 9,450 gpm, or 14.4 cfs. Since only 46.25 cfs is pumped into the water treatment plant from the Columbia River, and the city has rights for diverting up to 77.25 cfs, as much as 31 cfs can be spread in the well field and then withdrawn for municipal supply. Therefore, Groundwater Declaration Certificate No. D-2 should be canceled. This would avoid the WDOE and the city having to go through the legal proceedings to change the source of recharge to the well field from the Yakima River to the Columbia River. An amendment to the surface water certificates can be made so as to specifically describe the mode of operation at the well field.

GWC No. D-3, under Artificially Stored Groundwater Declaration of Claim No. D-3, was filed for the Duke Well Field. It authorized the withdrawal of 2,300 gpm, 1,228 acre-feet per year for municipal supply. Two wells within the N1/4 of Section 35, T. 10 N., R. 28 E.W.M. were authorized for use. The city ceased artificially storing groundwater in this well field in the 1970's, therefore, the city is withdrawing public water. The city has filed GWA No. G4-28515 for appropriation of public groundwaters requesting 2,300 gpm, 1,228 acre-feet per year from this well field for municipal supply. One well has a



75 horsepower pump and the other has a 100 horsepower pump. The combined capacity of these two pumps, which have been installed since 1948 is 1,400 gpm. The wells are 86 and 120 feet deep and penetrate sand and gravel. They are located about a mile west of the Columbia River. As in the two previously described well fields involving state groundwater, the city officials have indicated a willingness to relinquish Certificate No. D-3.

GWC No. D-4, under Artificially Stored Groundwater Declaration of Claim No. D-4, was confirmed for the Columbia Well Field. It authorized the withdrawal of 1,800 gpm, 921 acre-feet per year for municipal supply. Three wells located within the NE $\frac{1}{4}$  of Section 35, T. 10 N., R. 28 E.W.M. were authorized for use. Two of the wells have been abandoned and only one has continued to be used. The city ceased recharging the well field in the 1970's, therefore, the city is withdrawing public groundwater. The city has filed GWA No. G4-28517 to appropriate public groundwaters for the well that has continued to be used. The application requests 556 gpm, 890 acre-feet per year for municipal supply. The well is 70 feet deep and penetrated sands and gravel, a 75 horsepower pump is installed in the well. It is located in the E $\frac{1}{2}$ NE $\frac{1}{4}$  of Section 35, T. 10 N., R. 28 E.W.M., less than half a mile west of the Columbia River.

A provision of issuing permits under GWA's No. G4-28515, G4-28516, and G4-28517 will be that the Groundwater Declaration Certificates No. D-1, D-2, D-3, and D-4 be relinquished. Upon relinquishment of the certificates, the department can then issue an order eliminating the Richland Groundwater Sub-area. Each approval shall also carry the provision that the total annual quantity authorized for use under all the water rights that have issued to the City of Richland shall not exceed 33,128 acre-feet per year. The shallow wells described in each of the three applications penetrate sands and gravels that are recharged by the Columbia River.

Under authority of the Water Resources Act of 1971, Chapter 90.54 of the Revised Code of Washington (RCW), the Department of Ecology adopted the Columbia River Instream Resources Protection Program, Chapter 173-563 of the Washington Administrative Code (WAC), on June 23, 1980. This chapter of the Washington Administrative Code was adopted to promote proper utilization of the water resources of the Columbia River and to protect and ensure the viability of the instream resource values associated with the mainstem of the Columbia River in the future through the establishment of minimum flows and conservation and efficiency fundamentals relating to out-of-stream and instream uses and values. Each water right application being considered for a permit after the date of adoption of WAC 173-563 must be evaluated relative to the conservation and efficiency fundamentals and will be subject to the instream flows adopted for the appropriate river reach.

Applications for municipal supply are exempt from the provisions of Chapter 173-563 WAC.

On June 24, 1980, the Department of Ecology adopted Chapter 173-531A WAC, which provides certain reservations of waters from the John Day and McNary Dam pools of the Columbia River for future irrigation and municipal purposes. WAC 173-531A-040(1) and (2) provides that 1,320,000 acre-feet per year is reserved from the John Day and McNary pools for future irrigation use and that the priority date of each filing shall be the effective date of the regulation, June 24, 1980, or the date the application is filed, whichever is earlier.

During review of the City of Richland's water rights the following miscellaneous rights were identified:

SWC No. 9592 issued to the City of Richland authorizing 2.0 cfs. 760 acre-feet per year from the Columbia River for the irrigation of 190 acres. SWC No. 9824 issued to the city authorizing the diversion of 0.67 cfs from the Columbia River for sewer flushing. SWC No. 8098 issued to the City of Richland authorizing the diversion of 6.7 cfs from the Yakima River for municipal supply. The city uses Yakima River water solely for irrigation of an area called the shelterbelt. An application for change should be filed to change the purpose of use on Certificate No. 8098 from municipal supply to irrigation. None of the water use under these certificates is part of the city's municipal supply system. The water delivery systems are totally separate.

#### Conclusions

Based on the foregoing information, the following conclusions are made:

Water is available for the proposed beneficial use and there should be no impairment of existing rights. Granting permits will not be contrary to the public interest if the permits carry the provision that limits the total annual quantity from all of the City of Richland's municipal supply system water rights to 33,128 acre-feet per year and if GWC's No. D-1, D-2, D-3, D-4, 4307-A, and 3760-A are relinquished concurrent with permit issuance.



Recommendations

It is recommended that permits issue as follows:

GWA No. G4-28515: 1,400 gpm, 1,228 acre-feet per year for continuous municipal supply.

GWA No. G4-28516: 2,778 gpm, 3,791 acre-feet per year for continuous municipal supply.

GWA No. G4-28517: 556 gpm, 890 acre-feet per year for continuous municipal supply.

Prior to permit issuance, the city shall sign and return the attached relinquishment forms relinquishing GWC's No. D-1, D-2, D-3, D-4, 3760-A, and 4307-A.

Each permit that issues shall carry the following provision:

The total annual quantity authorized for use by the City of Richland from all their water sources is 33,128 acre-feet per year.

REPORT BY:

Becky Johnson  
Becky Johnson

DATE:

3-1-85

APPROVED BY:

Doug Clausen  
Doug Clausen, Regional Supervisor

DATE:

3/1/85

ska



## EXHIBIT "A"

If permits issue as recommended and the relinquishment forms are signed, the city's water rights for municipal supply are as follows:

NUMBER	SOURCE	QUANTITY
SWC 9005	Columbia River	54.25 cfs, 32,430 ac-ft/yr
S4-26404C	Columbia River	17 cfs, 12,257 ac-ft/yr
S4-27121A	Columbia River	6 cfs, 4,336 ac-ft/yr
G4-25674P	A well	1,400 gpm, 1,512 ac-ft/yr
G4-28515A	Duke Well Field	1,400 gpm, 1,228 ac-ft/yr
G4-28516A	Wellsian Way Wells	2,778 gpm, 3,791 ac-ft/yr
G4-28517A	A well	556 gpm, 890 ac-ft/yr
G4-28516C	A well	1,000 gpm, 1,006 ac-ft/yr